

# THE EFFECT OF CALIFORNIA TOBACCO CONTROL PROGRAM

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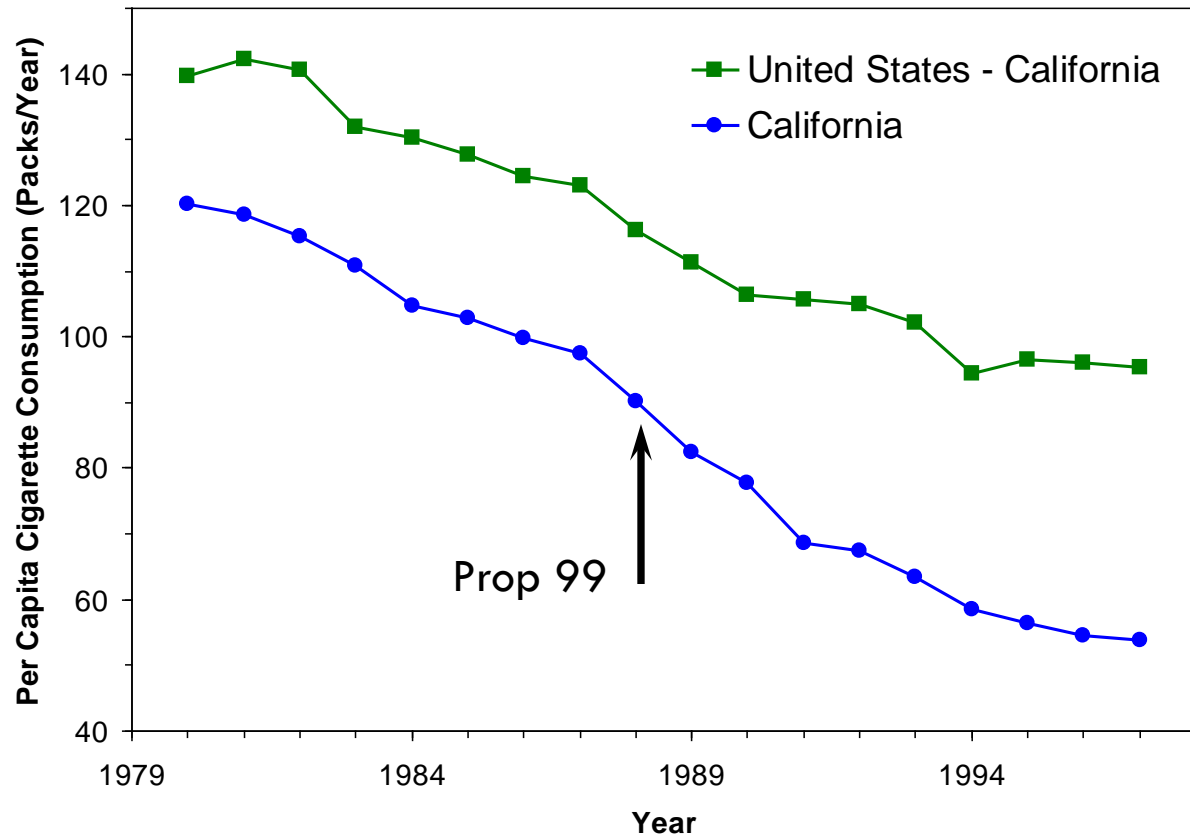
**May 12, 2011**

# The program has had big effects on

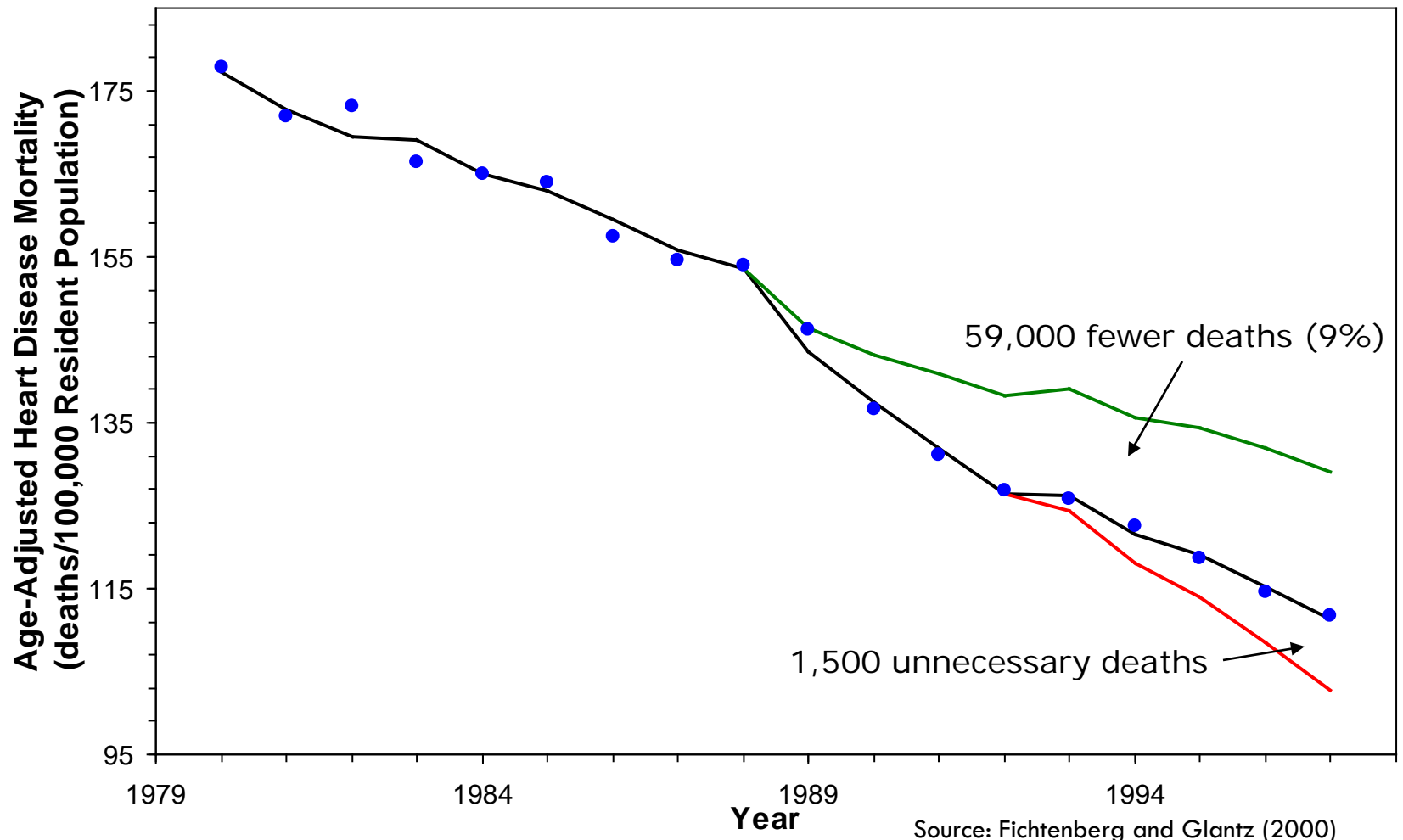
2

- Smoking
- Heart disease
  - ▣ Effects occur quickly
- Lung cancer
- Health care costs

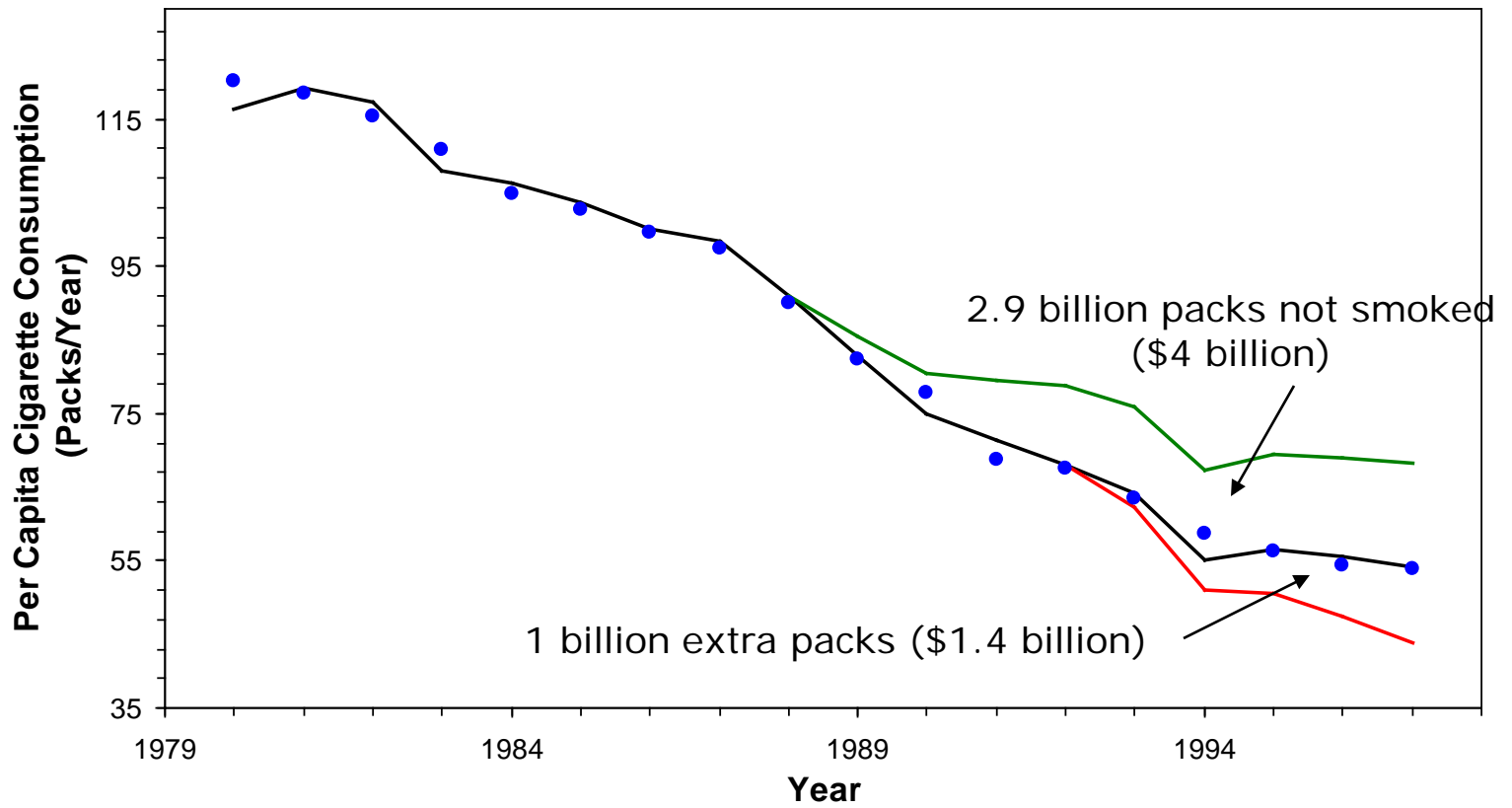
# Cigarette consumption dropped



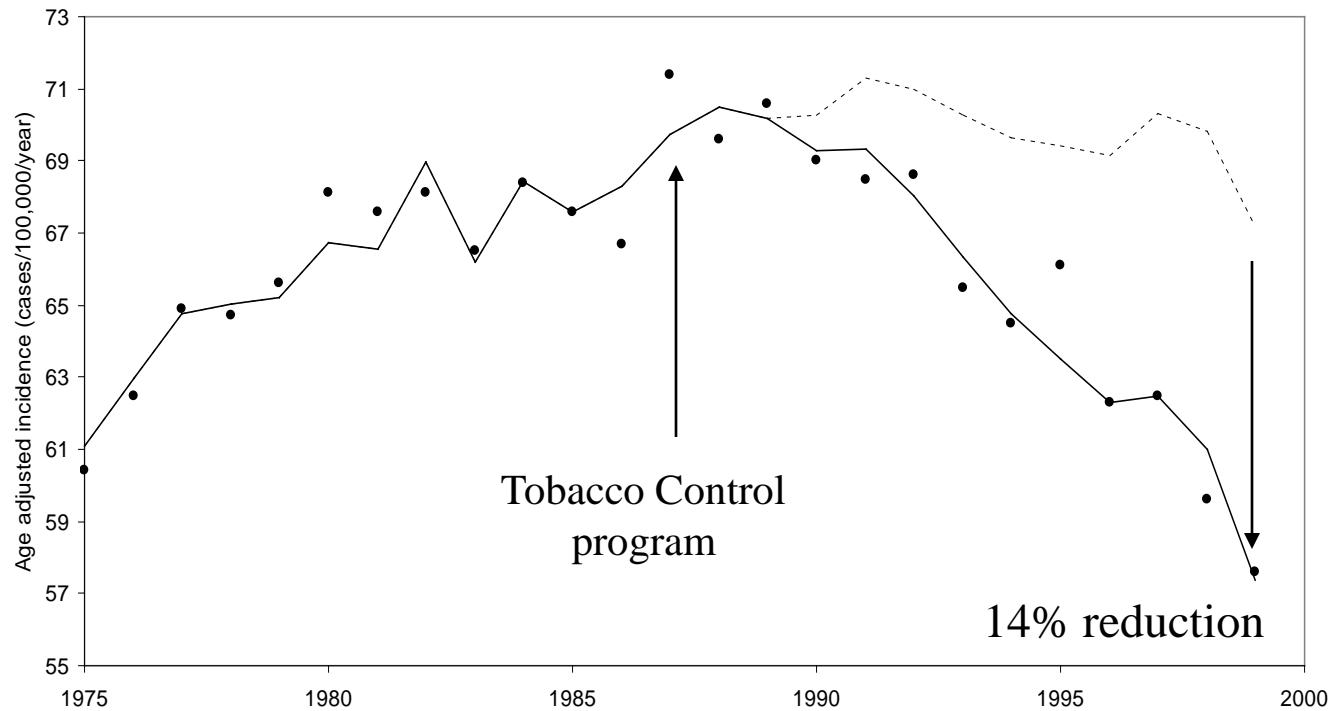
# Heart disease deaths dropped



# So did industry sales



# ... and lung cancer incidence

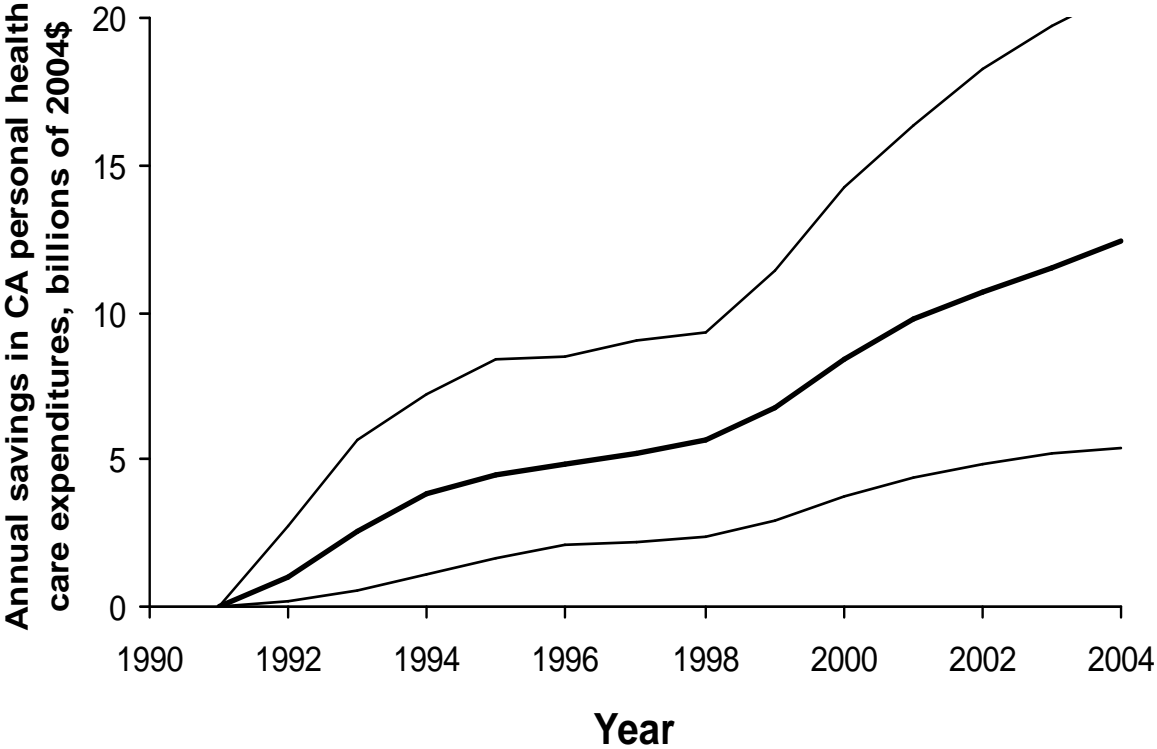


# Analysis of health care costs

7

- Analysis of first 15 years (through 2004)
- Dynamic model based on modern econometric methods
- Program expenditures  $\gg$  changes in per capita cigarette consumption
- Changes in cigarette consumption  $\gg$  changes in health costs
- Published in *PLoS Medicine*

# The health cost savings grow



Source: Lightwood, Dinno and Glantz (2009)



# Over first 15 years

- By 2004, the program was saving \$11 billion in health costs
  - ▣ 7.3% of all health costs)
- Cost tobacco industry over \$9 billion in lost sales
- Over the first 15 years the California program cost \$1.4 billion
- It saved \$86 billion

# Emerging Man

10

- Show the ad here, as an embedded video

# The Future: A New Model

- Uses *two* measures of smoking behavior,
  - ▣ Prevalence of current smoking
  - ▣ Average cigarette consumption per smoker
- Used to *predict* the effect of future policies
- More stable estimates than old model
  - ▣ So more reliable for prediction

# Results

12

- The qualitative forecast results of the new model are similar to the old model
  - ▣ Inflation is reducing the real value (and effect) of Proposition 99 program expenditures
  - ▣ Proposition 99 money alone will not produce sustained reductions in prevalence and cigarette consumption
- The CA tobacco control program has reduced health care costs through two channels of about equal importance
  - ▣ Reduced prevalence of current smoking
  - ▣ Reduced cigarette consumption in continuing smokers

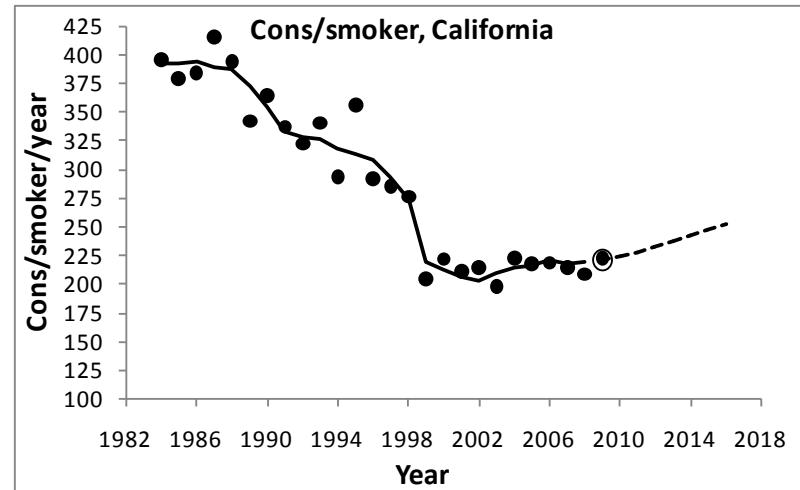
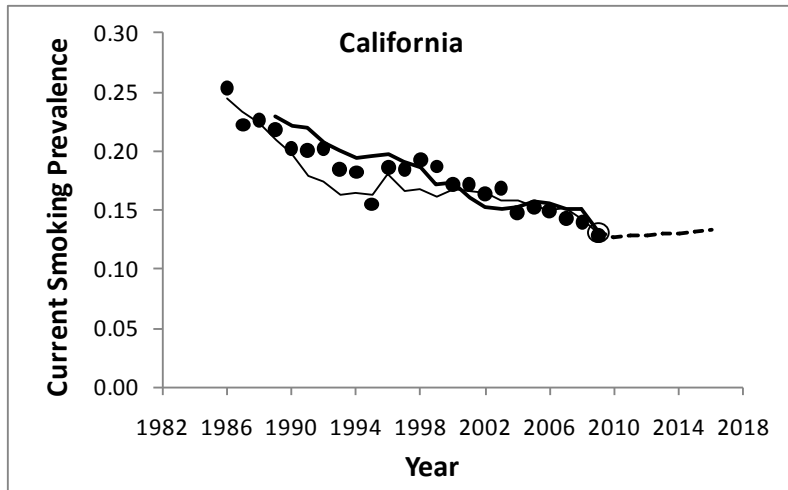
# Forecast Scenarios

13

- Continued funding level of five cents per pack in nominal dollars (Baseline Scenario)
- One dollar (nominal) tax imposed in 2012, with 20 cents per pack going to program funding in addition to the 5 cents per pack allocated by Proposition 99, plus 'backfill' funding to compensate for loss of revenue due to reduction in sales because of the tax increase.

# Scenario 1: Status Quo (5 cents per pack)

14



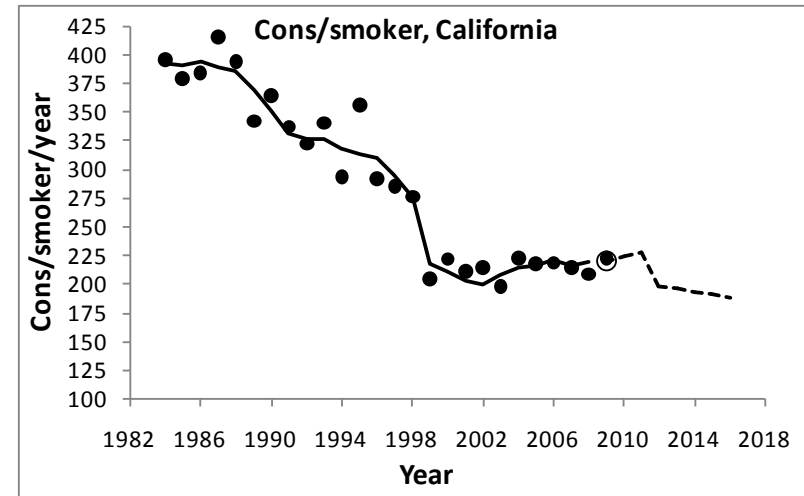
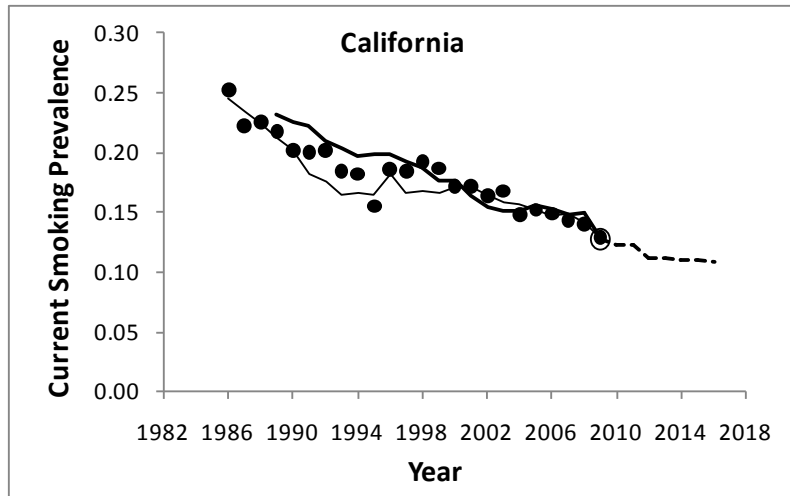
Black circles: observed, open circle: model forecast for 2009, dashed line: model forecasts for 2010 to 2016, thick line: estimates of long run model, thin line: estimates of short run model (not shown for consumption per smoker because almost identical to long run estimates)

Prevalence *increases* from 12.9% in 2012 to 13.4% in 2016

Packs consumed *increases* from 879 million in 2012 to 1.032 billion 2016

# Scenario 2: Tax increase (20 cents per pack plus backfill)

15



Black circles: observed, open circle: model forecast for 2009, dashed line: model forecasts for 2010 to 2016, thick line: estimates of long run model, thin line: estimates of short run model (not shown for consumption per smoker because almost identical to long run estimates)

Prevalence decreases from 11.2% in 2012 to 10.9% in 2016

Total packs consumed decreases from 653 million in 2012 to 632 million in 2016

Total health care expenditures decrease by \$4.1 billion in 2012 to \$7.2 billion in 2016 compared to Baseline Scenario

# The bottom line

16

- Status quo
  - ▣ Smoking decline will reverse
- \$1 tax with 20 cents for tobacco control:
  - ▣ Smoking will decrease
  - ▣ Total health care expenditure will decrease by a total of \$28 billion between 2012 and 2016 compared to status quo